

**REMARKS**

Claims 1 to 19 are pending. Claims 6 and 7 have been cancelled.

Claims 1-5, 8-12 and 14-17 were rejected under 35 US 103(a) as being unpatentable over Gruen et al (U.S. Patent No. 6,592,839) in view of Asmussen et al (U.S. Patent No. 5,311,103). Asmussen et al has been discussed extensively in the prosecution of this application and in the Appeal Brief. Gruen et al describes the preparation of nanocrystalline diamond. At column 4, lines 24 to 32 Gruen et al states as follows:

"Similarly, the third component of the plasma in the subject invention is an inert gas. For purposes of simplicity, argon has been used as the inert gas but it is understood by those of ordinary skill in the art that any of the noble gases as well as nitrogen or any mixtures of the noble gases and nitrogen may be used in lieu of argon as an inert gas. Where argon is used in the specification hereafter, it is for purposes of illustration only and not for purposes of limitation."

This is a clear indication that Gruen et al were not concerned about nitrogen and positively teach its use as an "inert gas". This reference teaches away from

the present invention in regard to the exclusion of nitrogen. Asmussen only relates to an apparatus which is not disclosed to be "essentially free of leaks" as set forth in Claim 1. One skilled in the art could not derive the claimed invention from the combination of references. Reconsideration is requested.

Claims 13 and 18 were rejected over the references previously applied in view of Herb et al (U.S. Patent No. 5,273,790). As set forth in Herb et al, molybdenum is known as a substrate holder but not in the process as set forth in Claim 1. None of the references describe coating a silicon carbide seal as in Claim 18 and Figures 18 and 19 (Page 27 of the specification). Reconsideration of this rejection is requested.

Claims 1-5, 8-12, 14-17 and 19 were rejected over Gruen et al in view of Asmussen et al (U.S. Patent No. 4,585,668). Gruen et al has also been discussed previously. Asmussen et al '668 does not disclose an apparatus which was enabled to perform the process as claimed as set forth in connection with Asmussen '103. Reconsideration is requested.

Claims 13 and 18 were rejected over Gruen et al in view of Asmussen (U.S. Patent No. 4,585,668) as applied to Claims 1 and 2 in view of Herb et al. As discussed previously in connection with Claims 13 and 18, a molybdenum holder has not been disclosed or suggested in a process as claimed. Reconsideration is requested.

Claims 1 to 5, 8 to 12, 14 to 17 and 19 were rejected as unpatentable over Gruen et al in view of Asmussen (U.S. Patent No. 4,906,900). These claims are patentable for the reasons already discussed in relation to Gruen et al and Asmussen '103. Reconsideration is requested.

Claims 13 and 18 were rejected over the references previously applied in view of Herb et al. These claims are patentable for the same reasons already discussed. Reconsideration is requested.

Claims 1 to 5, 8 to 12, 14 to 17 and 19 were rejected over Gruen et al in view of Asmussen et al (U.S. Patent No. 4,727,293). These claims are patentable for the reasons already discussed in relation to Gruen et al. Reconsideration is requested.

Claims 13 and 18 were rejected over the references previously applied in view of Herb et al (U.S. Patent No. 5,273,790). These claims are patentable for the reasons previously discussed. Reconsideration is requested.

Claims 1 to 5, 8 to 12, 14 to 17 and 19 were rejected on double patenting as being unpatentable over Asmussen U.S. Patent No. 4,585,668 in view of Gruen et al. The presently pending invention represents an improvement not disclosed or suggested or claimed in these references. Reconsideration is requested.

Claims 1 to 5, 8 to 12, 14 to 17 and 19 were rejected on double patenting as being unpatentable over Claims 22 to 27 of Asmussen U.S. Patent No. 4,585,668 in view of Gruen et al. These references do not disclose or suggest the improvement claimed. Reconsideration is requested.

In summary, the rejections in this Office Action is an attempt to impute teachings to the Asmussen et al and Gruen et al references which they do not contain in relation to the claimed invention. Gruen et al actually teaches away from the claimed invention

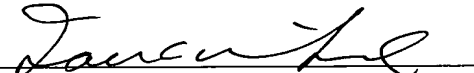
Attorney Docket No. MSU 4.1-572  
Appl. No. 10/073,710  
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Reply to Office Action of 05/31/2005

as noted in the above quoted paragraph. There is no way that one skilled in the art would be able to derive the claimed invention from the combinations of these references.

The Applicants are filing this Amendment as a Reply Under 37 CFR 1.111 as noted in the Office Action. The rejections in the last Office Action are much different than those on previous appeal.

It is now believed that Claims 1-5 and 8 to 19 are in condition for allowance. Notice of Allowance is requested.

Respectfully,

  
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